WHAT IS CLAIMED IS:

1. For use in data packet transmissions between a transmitter and a receiver where a data packet may include a first type of bits and a second type of bits, the first type of bits being more important to decoding than the second type of bits, and where a negatively acknowledged packet triggers a retransmission of the second type of bits to be used in a subsequent decoding operation at the receiver, a method comprising:

detecting an absence of a data packet;

sending a lost signal to the transmitter rather than a negative acknowledgment;

in response to the sending of the lost signal, receiving from the transmitter a first retransmission of the first type of bits of the data packet; and

decoding the first retransmission.

2. The method in claim 1, wherein the first type of bits includes actual information bits and the second type of bits includes parity bits.

3. The method in claim 1, wherein the first retransmission also includes a first set of the second type of bits of the data packet.

4. The method in claim 1, further comprising:

if the decoding of the first retransmission is not successful, sending a negative acknowledgment to the transmitter;

receiving from the transmitter a second retransmission including a second set of the second type of bits different from the first set;

decoding the data packet using information from the first and second retransmissions.

5. The method in claim 4, wherein the second transmission does not include the first type of bits.

6. The method in claim 4, wherein the second transmission includes the first type of bits and the second set of the second type of bits.

7. The method in claim 1, wherein the packet is detected as absent by determining that a packet with a particular identifier expected to be received was not received in an expected time period.

8. The method in claim 1, wherein the packet is detected as absent by comparing a decoding result for the packet with a threshold.

9. A method of processing received encoded data packets, each encoded data packet including first group of bits and second group of bits, where the first group bits are more important to decoding the data packet than the second group bits, comprising:

decoding a received packet to produce an interim decoding result;

determining if the interim decoding result is above a threshold;

if the interim decoding result is not above the threshold, sending a lost signal;

receiving a first retransmission of the first group bits of the data packet; and

decoding the first retransmission.

10. The method in claim 9, wherein the first retransmission also includes a first set of the second group bits of the data packet.

11. The method in claim 9, further comprising:

if the decoding of the first retransmission is not successful, sending a negative acknowledgment to the transmitter;

receiving from the transmitter a second retransmission including a second set of the second group bits different from the first set;

decoding the data packet using information from the first and second retransmissions.

12. The method in claim 11, wherein the second transmission only includes the second set of the second group bits.

13. The method in claim 11, wherein the second transmission includes the first group bits and the second set of the second group bits.

14. Apparatus for use in a transmitter which transmits data over a communications channel, comprising:

a signal processor configured to process data and generate corresponding systematic bits and parity bits;

a combiner configured to selectively receive systematic and parity bits and generate a coded data packet;

transceiving circuitry configured to transmit coded data packets over the communications channel;

a controller configured to control which bits are selected by the combiner to generate the coded data packet based on feedback from a receiver,

wherein when a negative acknowledgment is received, parity bits are retransmitted over the communications channel to the receiver, and when a lost signal is received or no acknowledgment or negative acknowledgment is received, the systematic bits are retransmitted over the communications channel to the receiver.

15. The apparatus in claim 14, wherein the signal processor and combiner is implemented using a turbo encoder.

16. The apparatus in claim 15, wherein the communications channel is a radio channel.

17. The apparatus in claim 14, wherein when a lost signal is received or no acknowledgment or negative acknowledgment is received, the systematic bits are retransmitted over the communications channel to the receiver along with parity bits originally transmitted with the systematic bits.

18. The apparatus in claim 14, wherein when a lost signal is received or no acknowledgment or negative acknowledgment is received, the systematic bits are retransmitted over the communications channel to the receiver along with parity bits different from the parity bits originally transmitted with the systematic bits.

19. The apparatus in claim 14, wherein when the systematic bits are retransmitted, and a negative acknowledgment signal is received in response to the

retransmission, parity bits associated with the systematic bits are retransmitted over the communications channel to the receiver without the systematic bits.

20. The apparatus in claim 14, wherein when a negative acknowledgment signal is received, the systematic bits are retransmitted over the communications channel to the receiver along with parity bits.

21. The apparatus in claim 14, wherein when a negative acknowledgment signal is received, parity bits are transmitted over the communications channel to the receiver without the systematic bits.

22. Apparatus for use in a receiver which receives data over a communications channel, comprising:

transceiving circuitry configured to receive a coded data packet transmitted over the communications channel by a transmitter, where an initially transmitted coded data packet includes a first type of bits and a second type of bits, the first type of bits being more important to decoding than the second type of bits;

packet processing circuitry configured to detect the absence of an expected packet and to transmit a lost signal to the transmitter, and thereafter, to decode a first retransmission of the expected packet which includes the first type of bits.

23. The apparatus in claim 22, wherein the packet processing circuitry includes:

a decoder for decoding a received data packet, and

wherein if the data packet cannot be properly decoded, a lost signal is sent to the transmitter.

24. The apparatus in claim 22, wherein the packet processing circuitry includes:

a buffer for storing received data packet information;

a combiner for combining buffer information with retransmitted information;

a decoder for decoding an output of the combiner; and

a controller coupled to the buffer, combiner, and decoder.

25. The apparatus in claim 24, wherein the decoder is a turbo decoder.

26. The apparatus in claim 24, wherein the buffer and the combiner perform an incremental redundancy operation.

27. The apparatus in claim 24, wherein the decoder performs error correction and the packet processing circuitry further detects errors in the output of the decoder.

28. The apparatus in claim 24, wherein if the decoder output is not acceptable, the controller sends a negative acknowledgment signal to the transmitter.

29. The apparatus in claim 28, wherein in response to the negative acknowledgment, the receiver receives a retransmission including a set of second type bits without the first type bits.

30. The apparatus in claim 28, wherein in response to the negative acknowledgment, the receiver receives a retransmission including a set of second type bits along with the first type bits.

31. The apparatus in claim 22, wherein the first type of bits includes actual information bits and the second type of bits includes parity bits.

32. The apparatus in claim 22, wherein the first retransmission also includes a first set of the second type of bits.

33. The apparatus in claim 22, wherein if decoding of the first retransmission is not successful, a negative acknowledgment is sent to the transmitter, and in response, a second retransmission is received including a set of the second type of bits without the first type of bits.

34. The apparatus in claim 33, wherein the second transmission is received including the first type of bits and the second type of bits.